

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference HKQ/PB60441	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2004/009087	International filing date (day/month/year) 12/08/2004	(Earliest) Priority Date (day/month/year) 14/08/2003
Applicant GLAXO GROUP LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☒ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. _____



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07C235/00 C07C255/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, WPI Data, PAJ, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BESTMANN, H. J.; LANG, H. J.: "Zur Reaktion von Alkiliden.triphenylphosphoranen mit Chinonen" TETRAHEDRON LETTERS, vol. 25, 1969, pages 2101-2106, XP001205101	1,4
A	page 2102; table I; compound VII	10
X	JUBY, P. F.; GOODWIN, W. R.; HUDYMA, T. W.; PARTYKA, R. A.: "Antiinflammatory activity of some indan-1-carboxylic acids and related compounds" J. MED. CHEM., vol. 15, no. 12, 1972, pages 1297-1306, XP001204917	1,3,4,8,9
A	page 1299; compounds 9D,9E,9F ----- -/--	10

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

*** Special categories of cited documents:**

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

21 February 2005

Date of mailing of the international search report

04/03/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Slootweg, A

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ALLEN, G. R. JR.; LITTELL, R.; MCEVOY, F. J.; SLOBODA, A. E.: "5-substituted-1-indancarboxylic acids as potential antiinflammatory agents" J. MED. CHEM., vol. 15, no. 9, 1972, pages 934-937, XP001204841	1,3,4,8, 9
A	page 933; figure II; compounds 8D,9D,9E,9B	10
X	TAYLOR, E. C.; CONLEY, R. A.; KATZ, A. H.: "Thallium in organic synthesis 62. A convenient synthesis of alpha-arylsuccinic acids" J. ORG. CHEM., vol. 49, 1984, pages 3840-3841, XP001204842	1,3,4
A	page 3841, right-hand column, lines 11-17	10
X	TAMURA, Y.; SHIROUCHI, Y.; MINAMIKAWA, J.; HARUTA, J.: "Synthesis of 2-Arylsuccinates by Oxidative 1,2-Aryl Migration of 3-Aroylpropionic Acids or 5-Arylfuran-2(3h)-ones with Thallium(III) Nitrate" CHEM. PHARM. BULL., vol. 33, no. 2, 1985, pages 551-556, XP001204918	1,3,4
A	page 553; table II; compound 49	10
X	US 3 644 479 A (BRISTOL-MYERS CO.) 22 February 1972 (1972-02-22)	1,3,4,8, 9
A	column 3, lines 7-35	10
X	US 3 940 434 A (CIBA-GEIGY CO.) 24 February 1976 (1976-02-24)	1,4,8,9
A	column 24, lines 35,36; example 9	10
X	DE 20 23 000 A (TAKEDA CHEM. IND.) 5 August 1971 (1971-08-05)	1,4,8,9
A	page 3; examples 3,6	10
X	US 3 663 627 A (BRISTOL-MEYERS CO.) 16 May 1972 (1972-05-16)	1,3,4,8, 9
A	columns 3,7, lines 53-65 column 9, lines 1-30 column 11, lines 33-35 column 7, lines 53,65	10
X	GOTTHARDT, H.; NIEBRLA, S.: "Thermische Reaktionen von Thioketonen mit Acetylendicarbonsäure-dimethylester" LIEBIGS ANN. CHEM., 1980, pages 867-872, XP009042968	1
A	page 868; compound 9	10
	-/--	

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ARSENAULT, G.; BROADBENT, A. D.; HUTTEN-CZAPSKI, P.: "Enolate Ion Reaktions of Leucoquinizarin. Michael Additions" J. CHEM. SOC., CHEM. COMMUN., 1983, pages 437-438, XP009043011	1
A	page 437; table 1; compound 2	10
X	BARNETT, ET AL: "The action of Maleic Anhydride upon some Anthracene derivatives" J. CHEM. SOC., 1934, pages 1224-1226, XP009042990	1
A	compound VII	10
X	UEDA, T.; ITO, I., IITAKA, Y.: "Synthesises of Pyrazole derivatives. XXBI. Reaction of 1-Methyl-2-phenyl-1,2,3,10-tetrahydro-4H-b enzo[6,7]thiepine[3,4-c]pyrazole-3,4-dione with Dimethyl Acetylenedicarboxylate." CHEM PHARM. BULL., vol. 24, no. 4, 1976, pages 596-606, XP009042969	1
A	page 600; compound 22	10
X	AVETISYAN ET AL.: "Relationship between chemical structure and anticonvulsant activity in succinimides" PHARM. CHEM. J., vol. 22, no. 4, 1988, pages 309-313, XP009042977	1,6
A	page 309; figure 1; compound VIIB page 310; figure 2; compound X	10
X	CAGNIANT, P.; BELLINGER, N.; CAGNIANT, D: "Contribution à l'étude de quelques dérivés substitués en 1 du dibenzoselenophène; nouvelle synthèse du benzo-ub[1,2d]selenophène." C.R.ACAD. SC. PARIS, T.277, SERIE C., 29 October 1973 (1973-10-29), pages 779-781, XP009042974	1
A	2-dibenzoselenophen-1-yl-succinic acid	10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/009087

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3644479	A	22-02-1972	CA 920609 A1	06-02-1973
US 3940434	A	24-02-1976	CH 585687 A5	15-03-1977
			AR 206297 A1	15-07-1976
			AT 337681 B	11-07-1977
			AT 324275 A	15-11-1976
			AT 337682 B	11-07-1977
			AT 324575 A	15-11-1976
			AT 329550 B	10-05-1976
			AT 733173 A	15-08-1975
			AU 5949673 A	27-02-1975
			BE 803933 A1	25-02-1974
			DE 2341301 A1	28-02-1974
			FR 2196808 A1	22-03-1974
			FR 2257278 A1	08-08-1975
			GB 1446221 A	18-08-1976
			JP 49056961 A	03-06-1974
			NL 7311512 A	26-02-1974
			US 4004026 A	18-01-1977
DE 2023000	A	05-08-1971	JP 49020566 B	25-05-1974
			JP 49020567 B	25-05-1974
			BE 750405 A1	16-10-1970
			CA 1023381 A1	27-12-1977
			CA 1017354 A2	13-09-1977
			CH 545261 A	15-12-1973
			CH 545759 A	15-02-1974
			CH 545760 A	15-02-1974
			CH 545769 A	15-02-1974
			DE 2023000 A1	05-08-1971
			DK 66575 A	04-08-1975
			DK 133741 B	12-07-1976
			FR 2051530 A5	09-04-1971
			GB 1320183 A	13-06-1973
			GB 1320184 A	13-06-1973
			GB 1320181 A	13-06-1973
			GB 1320182 A	13-06-1973
			HU 166780 B	28-05-1975
			NL 7006836 A , B,	17-11-1970
			SE 367181 B	20-05-1974
			US 3763229 A	02-10-1973
			HU 174232 B	28-11-1979
US 3663627	A	16-05-1972	NONE	

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